APPLIED TECHNOLOGY CENTER
BUSINESS PLAN & MARKET SURVEY

Preface

This research was conducted under the auspices of the Research Institute for Computing and Information Systems by Dr. Robert Hodgin and Dr. Roberto Marchesini at the University of Houston-Clear Lake. They were assisted by Frank Sloan and Mike Thomas, Research Assistants at UHCL. Dr. Peter Bishop, Director of Space Business Research Center at the University of Houston-Clear Lake, served as RICIS technical representative.

Funding has been provided by Administration Directorate, NASA/JSC through Cooperative Agreement NCC 9-16 between NASA Johnson Space Center and the University of Houston-Clear Lake. The NASA technical monitor for this activity was Robert MacDonald, Assistant to the Director for Research, Education and University Programs, Mission Support Directorate, NASA/JSC.

The views and conclusions contained in this report are those of the author and should not be interpreted as representative of the official policies, either express or implied, of NASA or the United States Government.

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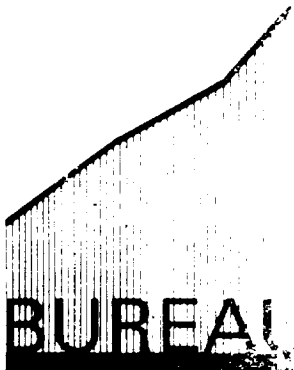
BUSINESS PLAN



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APPLIED TECHNOLOGY CENTER
BUSINESS PLAN

APPLIED TECHNOLOGY CENTER
BUSINESS PLAN

I. Executive Summary

Applicant	Applied Technology Center
Telephone	(713) 480-8725
Business Concept	The goal of the Applied Technology Center (ATC) is to promote the development and transfer of ideas using the latest available computer technologies. By maintaining a stimulating environment, the ATC enhances the synergistic links between people and concepts. The ATC creatively tethers the resources of business, university and government establishments in pursuit of its entrepreneurial objectives.
Funds Requested	$ 350,000
Terms	Donations, grants or equity sharing arrangements
Need for Funds	To enable the ATC to successfully launch its concept in the market-place.

II. BUSINESS PLAN

Enterprise Name	Applied Technology Center (ATC)
Business Type	Computer Technology Transfer and Development Non-Profit Corporation
Hours of Operation	8 am - 5 pm Monday through Friday
Location	1331 Gemini, Suite 100 Houston, Texas 77058 (713) 480-8725
Purpose and Philosophy	The mission of the Applied Technology Center is to stimulate innovation in state-of-the-art and leading edge computer-based technology. In addition to providing an environment for innovation, the ATC encourages the practical utilization of late-breaking computer technologies by firms of all variety. To accomplish its mission, the ATC board vigorously pursues the following four strategies:

A. Providing a first-class investigation facility,

B. Developing people who can nurture and apply innovative ideas,

C. Supporting the productive triad of business, education and research,

D. Sensing the advanced computer technology industry for emerging developments.

Successfully applying the four strategies reduces the risk and shortens the time-frame for entrepreneurial product development. Importantly, the ATC facility allows qualified users access to millions of dollars in computing equipment for an attractive entry fee.

It is the highest goal of the ATC to foster computer-based technology transfer for enterprises of all sizes. The ATC Board of Directors seeks to foster technology development and help bridge the gap between the conceptualization and actualization of ideas. As the United States government pursues the nation's space program and private industry reaches toward the commercialization of space, the ATC wants to become a proving ground for computing entrepreneurs.

The ATC is located at the heart of aerospace development in the Clear Lake Area of Houston. Immediately accessible by JSC and off-site personnel alike, the ATC resides at 1331 Gemini, Suite 100. It is no accident that the ATC was conceived in the backyard of NASA's mission control center. With over 3,000 of the nation's best and brightest software engineers working in an attractive environment, the coupling of opportunity with ability comes naturally. The area also ranks among the most affluent, highly educated and economically robust in the Houston region and across the State of Texas.

As a linking center between industry, government and education, the ATC is strategically postured to tap the best of resources in an extremely cost-effective manner. The ATC's complement of leading edge and state-of-the-art computing capabilities even now

permits complex probes into three dimensional geometric modeling, expert systems, artificial intelligence, robotics, and other computer-aided analyses. The ATC facility can serve well as the nexus between government agencies--such as NASA/JSC, DOD and DOT--private companies in the conception, design and development of engineering ideas, visual displays, training approaches and related supporting activities.

Close ties with the University of Houston-Clear Lake provide an avenue to basic research centers, training facilities, grants and vast student talent. Capitalizing on the existing relationship between the Johnson Space Center and the University, the ATC is uniquely poised to emphasize opportunities in space-craft design, biomedicine, automation, and artificial intelligence.

The benefits stemming from an active ATC are many and varied. Among the most important benefits the ATC offers are:

A. A minimum investment opportunity for testing and prototyping ideas,

B. A minimum investment opportunity for vendor technology sharing,

C. A central resource for common investigative research in state-of-the-art computing,

D. An extensive training and educational facility,

E. An opportunity for businesses to assess the potential benefits of automation and product development.

The Applied Technology Center is in business to address the computer-based research and development needs of individuals and enterprises. Its goal is to continuously feed the cycle of innovation through the creative interaction of people and ideas in an environment that erases typical institutional boundaries.

BUSINESS HISTORY

The Applied Technology Center opened one year ago as an outgrowth of creative thinking by key aerospace executives. The concept quickly found its embodiment in the form of donated computer graphics equipment located at the UH-Clear Lake campus. Space limitations dictated that the ATC move to its present location at 1331 Gemini. The Board of Directors continuously negotiates with computer vendors in its efforts to offer state-of-the-art capabilities.

The Board recently applied for 501 (c) (3) tax exempt status with the Internal Revenue Service. The application is still in process with the expectation that the desired tax status will be granted during the current fiscal year.

The ATC associates with the significant business, development and technology organizations in the area. Among them are the:

A. Houston Chamber of Commerce,

B. Clear Lake Area Chamber of Commerce,

C. Clear Lake Area Economic Development Foundation,

D. Clear Lake Area Aerospace Task Force.

The successes of the ATC are reflected by the products developed at the facility. A representative sampling of innovations to date includes:

A. A Computer Aided User-oriented System Evaluation (CAUSE) product used to evaluate artificial intelligence tools. This application was developed by Boeing Aerospace at the ATC.

B. The Hazard Analysis Preprocessor Prototype is destined to help safety engineers systematically identify hazardous conditions. The Boeing Aerospace Company also developed this prototype.

C. Conceptual Engineering drawings for DARPA's Conestoga IV expendable launch vehicle developed at the ATC may help Space Services Inc. win contracts to launch payloads into low earth orbit.

D. Eagle Engineering's development of a generic space robot design on ATC equipment may be helpful in unmanned construction and servicing of the Space Station.

E. Easyspec Inc. developed an Entity-Attribute-Relation (EAR) Database productivity tool with ATC equipment.

The ATC benefits from the generosity and vision of high technology computer vendors in the form of equipment loans. Key pieces of computing hardware -- driven by some of the most advanced software on the market -- such as those appearing below, help draw users to the ATC.

A. Compaq Deskpro 386

B. Computervision Cadd Station

C. Computervision Micro Cadd PC/AT

D. Computervision Instaview

E. DEC MicroVAX II GPX

F. Harris MCS Workstation

G. Silicon Graphics 2400 Turbo

H. Silicon Graphics Iris 40/60 Turbo

I. Symbolics 3650

During its brief existence, the ATC has hosted orientation seminars for many of the largest and most innovative firms in the competitive aerospace, medical and engineering industries. Firms represented by seminar participants include:

A. Boeing Aerospace

B. Lockheed

C. IBM

D. McDonnell Douglas

E. Seiko

F. Bendix

G. Bechtel

H. Carbomedics

I. Hughes Tool

J. M.W. Kellogg

K. Singer Link

L. Raytheon

M. Martin Marietta

N. Litton Aerospace

O. LTV

P. Symbolics

The ATC continues to seek the best of computer technology and offer it to the brightest of innovators in a fashion which promotes rapid, efficient and cost effective development.

PERSONNEL

In accordance with its by-laws, the ATC is managed by its 10 member Board of Directors. The current members are:

Board of Directors - 1988

Emyre Barrios Robinson Barrios Technology	Chairman of the Board
Joe Roach McDonnell Douglas Astronautics Corporation	Vice Chairman
Bill Holbert Symbolics, Inc.	Treasurer
Don Teagarden Eagle Engineering	Secretary
Frank Tuma Boeing	Member
Helen Wood Digital Equipment Corporation	Member
John Tahaney Computervision	Member
John Francis JAY Advertising	Member
E.T. Dickerson University of Houston Clear Lake	Member
Bill Beene IBM Corporation	Member

The ATC board of directors is guided by Ms. Emyre Robinson, President of Barrios Technology. Ms. Robinson offers impeccable credentials as an entrepreneur, having been the driving force behind her present company start-up, Barrios Technology. Her many awards speak of her business acumen as does the continued success of Barrios. The same combination of leadership and optimism is in evidence in the launch of the ATC.

The individual selected to direct the ATC shall possess a strong blend of technical expertise and business savvy. It is this person who, more than any other, will be responsible for the aggressive marketing and tough-minded business decisions required in a rapidly transforming environment.

The system manager's area of responsibility is hardware and software installation and operation. Every piece of equipment must be monitored for utilization and operation. The education specialist will conduct training, participate in grant proposals and support the day-to-day operations of the ATC working with the system manager. With this combination of talent and support the ATC will provide the type of test-bed environment for innovation that is destined to become its hallmark.

POTENTIAL

The ATC's vision is to evolve into an innovative development and transfer facility of national significance. The emergence from small, individual efforts to

larger and more commercially feasible endeavors will be accomplished through a combination of aggressive marketing and continuous nurturing of its productive environment.

Membership on the ATC's board of directors will continue to be the CEOs or COOs of major aerospace firms, technology-based enterprises, educational insitutions and governmental bodies. These individuals will guide the broad policy decisions as the ATC matures and its development efforts deepen.

The long term goal of the ATC is to establish a national reputation as an entrepreneurial facility in computer software development. This goal, which draws upon area resources, limits neither the scope nor the nature of work that can be pursued at the center. The ATC's impact on the local economy will be to serve as a magnet attracting risk taking enterprises.

COMPETITION

The ATC concept is designed to remove competitive barriers. Through its direct university and governmental affiliations it endeavors to serve market product development, not to undertake commercial operations solely for its own gain.

The ATC itself has no known business kin in the state or region, its most likely drawing area.

THE TARGET MARKET

The ATC concept can be successfully exploited in one primary market and two secondary markets. The primary market is the local aerospace industry, including JSC. This market manifests an extremely high need for continual development in space-related software. In addition, the managerial and publishing demands of those enterprises produce additional needs in training and logistics.

The secondary market holds two major components. The first component includes the computer development needs of firms in other industries, such as petrochemical, bio-medical and financial enterprises. The second component involves smaller and more diverse entrepreneurial upstarts that can gain from ATC facilities because of the low access cost.

Potential sources of revenue for the ATC fall into five categories.

A. User Fees

B. Contract Work

C. Training Programs

D. Grants

E. Donations

The customary sources for the primary and secondary target markets fall into the first three revenue categories. Grants will be sought to support sponsored research either through the University of Houston-Clear Lake or through federal or state agencies.

MARKETING PLAN

Findings from a recent market survey verify target markets both geographically and industrially. Overall, only limited knowledge of the ATC and its opportunities exists but keen interest resides in parties aware of the ATC facility. The strategic marketing approach of the ATC varies to fit the needs in each market segment.

The locally-based aerospace market is best tapped by direct and personal interaction of the ATC director with board members. Planned visits and tested presentation methods will be utilized to gain maximal involvement by major aerospace firms.

The secondary market segments will be sought through a variety of means including: open houses, brochures, press releases and professional networking. This combination of efforts serves to keep the ATC continually before the eyes of potential clients and establishes a conduit for discussion.

An integral component of the ATC marketing initiative is the continuous gathering of market intelligence. Through a system of repetitive telephone polls from a rotating group of experts in emerging fields, the ATC will be able to keep pace with the changing market configuration. This process is currently in place and has successfully provided rich information from the initial scanning of the market.

University affiliations and contacts with state and federal agencies will be fully utilized to generate a continuous flow of grant proposals in the areas of tech-

nology education, training, integration and evaluation. Agencies such as the Texas Education Agency, Coordinating Board, National Science Foundation and Department of Education are known to seek and fund calibre scientific investigations in the realm of technology and education.

SUMMARY STATEMENT

The ATC concept is to provide a fluid, dynamic environment for the pursuit of innovation in computer technology accessible to companies large and small. The ATC enterprise can swiftly respond to market shifts as it nurtures the best of the entrepreneurial spirit.

In the coming years the ATC can be host to a dazzling array of products developed in its facility. Members will be drawn from major high technology and technology using firms as sponsored and individual research efforts are pursued in tandem. The linkage between business, university and government will become virtually seamless, as society gains both commercially and materially from its products.

III. MANAGEMENT AND ORGANIZATION CHART

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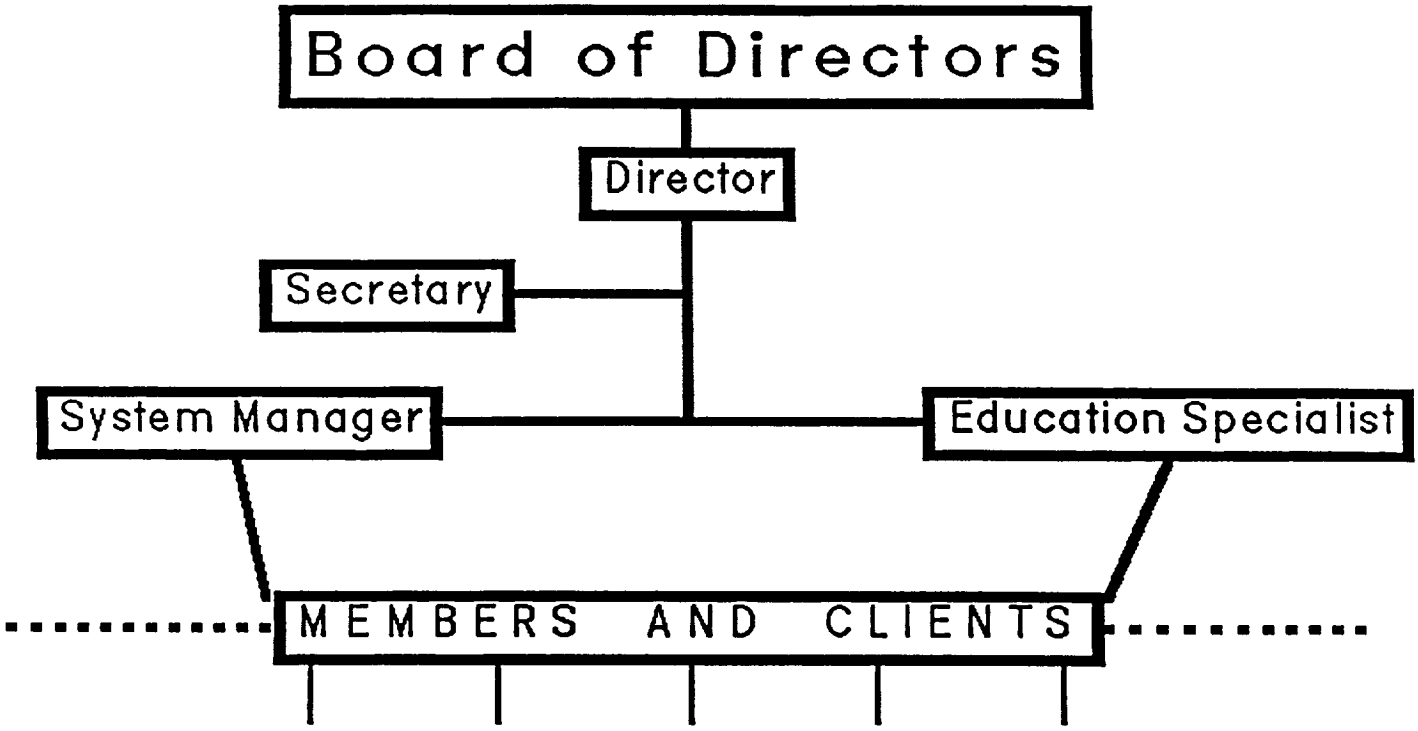
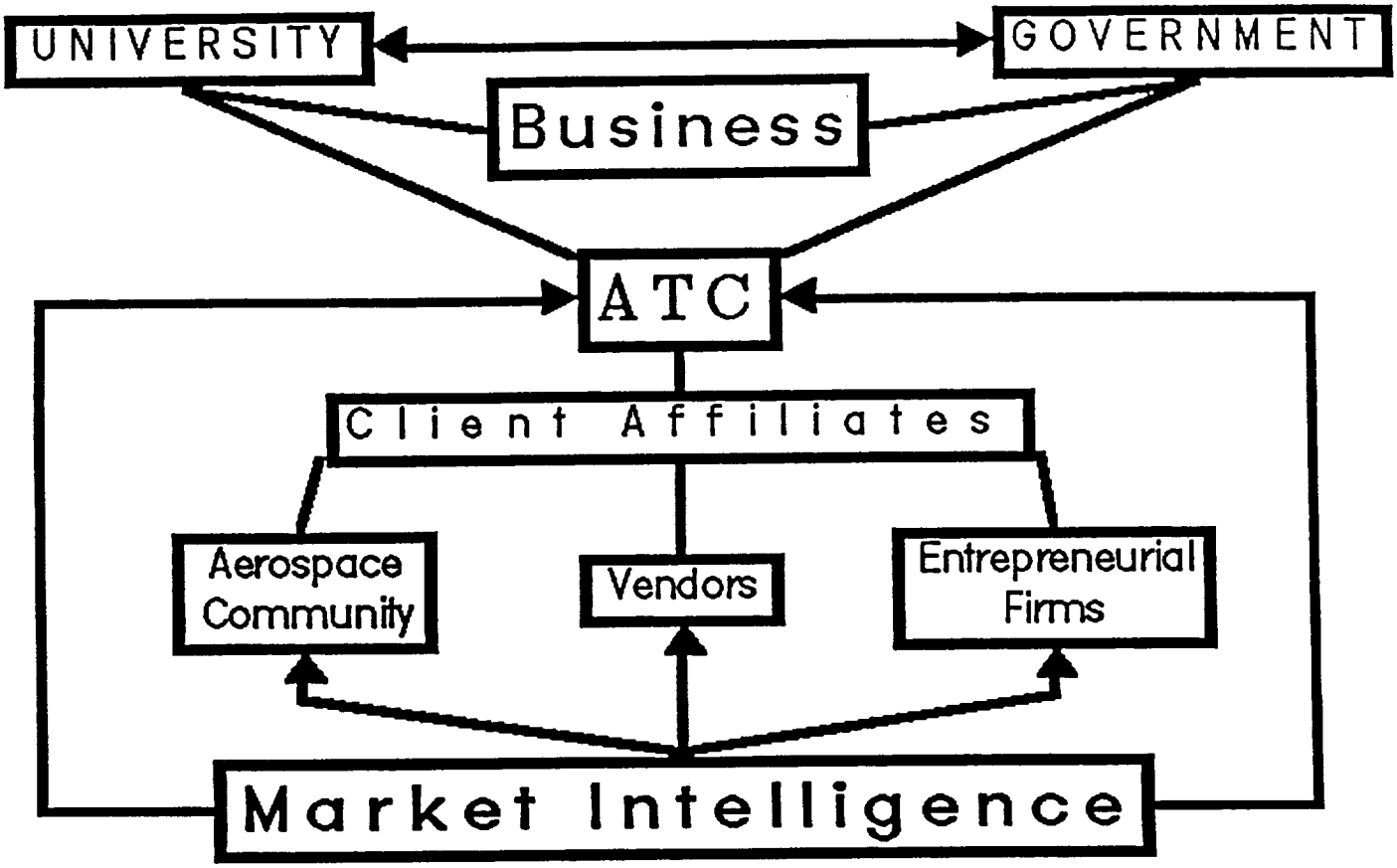
ORGANIZATION CHART



IV. THE ATC MARKET NICHE AND CYCLE OF INNOVATION

The ATC Market Niche



The A T C
CYCLE OF INNOVATION

V. PROFORMA CASH FLOW STATEMENTS

The proforma cash flow statements which follow are constructed from the best available data as of the time of this plan. Revenue sources are predominantly fees, grants and contracts. However, the ATC may engage in revenue sharing arrangements in the development of commercially launched products. Given the inherent uncertainty of revenue accruing from such sources they have been omitted from the statements shown.

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PROFORMA CASHFLOW STATEMENT
FIVE YEARS OF OPERATION

	Year 1			
Cash Inflows	1st. QRT	2nd. QRT	3rd. QRT	4th. QRT
Membership Fees	8,000	8,000	8,000	8,000
Grants	0	0	0	50,000
Contract Revenue	0	15,000	15,000	20,000
Total Inflows	8,000	23,000	23,000	78,000
Cash Outflows				
Salaries				
Director	22,500	22,500	22,500	22,500
Office	4,000	4,000	4,000	4,000
Technical	8,000	8,000	8,000	8,000
Office Equipment	6,000	0	0	0
Advertising	4,000	10,000	3,000	3,000
Repairs & Maintenance	3,000	3,000	3,000	3,000
Lease: Office & Utilities	14,000	14,000	14,000	14,000
Telephone	3,000	3,000	3,000	3,000
Postage & Freight	750	750	750	750
Legal & Professional	25,000	0	0	0
Capital Purchases	0	3,000	2,000	1,000
Office Supplies	1,000	1,000	1,000	1,000
Business Promotion	4,000	4,000	4,000	4,000
Total Outflows	95,250	73,250	65,250	64,250
Net Cashflow/ Period	(87,250)	(50,250)	(42,250)	13,750
Cumulative Cashflow	(87,250)	(137,500)	(179,750)	(166,000)
Donations	150,000			
Adjusted Cashflow	62,750	12,500	(29,750)	(16,000)

APPLIED TECHNOLOGY CENTER
PROFORMA CASHFLOW STATEMENT
FIVE YEARS OF OPERATION

	Year 2			
Cash Inflows	1st. QRT	2nd. QRT	3rd. QRT	4th. QRT
Membership Fees	12,000	12,000	12,000	12,000
Grants	0	0	0	50,000
Contract Revenue	20,000	20,000	25,000	25,000
Total Inflows	32,000	32,000	37,000	87,000
Cash Outflows				
Salaries				
Director	22,500	22,500	22,500	22,500
Office	4,000	4,000	4,000	4,000
Technical	8,000	8,000	8,000	8,000
Office Equipment	4,000	0	0	0
Advertising	5,000	5,000	5,000	5,000
Repairs & Maintenance	3,000	3,000	3,000	3,000
Lease: Office & Utilities	14,000	14,000	14,000	14,000
Telephone	3,000	3,000	3,000	3,000
Postage & Freight	750	750	750	750
Legal & Professional	5,000	0	0	0
Capital Purchases	2,000	2,000	2,000	2,000
Office Supplies	1,500	1,500	1,500	1,500
Business Promotion	5,000	5,000	5,000	5,000
Total Outflows	77,750	68,750	68,750	68,750
Net Cashflow/ Period	(45,750)	(36,750)	(31,750)	18,250
Cumulative Cashflow	(211,750)	(248,500)	(280,250)	(262,000)
Donations	150,000			
Adjusted Cashflow	88,250	51,500	19,750	38,000

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PROFORMA CASHFLOW STATEMENT
FIVE YEARS OF OPERATION

Cash Inflows	Year 3	Year 4	Year 5
Membership Fees	72,000	96,000	125,000
Grants	100,000	100,000	100,000
Contract Revenue	100,000	100,000	100,000
Total Inflows	272,000	296,000	325,000
Cash Outflows			
Salaries			
Director	90,000	90,000	90,000
Office	24,000	24,000	24,000
Technical	60,000	60,000	60,000
Office Equipment	4,000	4,000	4,000
Advertising	18,000	18,000	18,000
Repairs & Maintenance	15,000	15,000	15,000
Lease: Office & Utilities	56,000	56,000	56,000
Telephone	13,000	14,000	15,000
Postage & Freight	3,000	3,000	3,000
Legal & Professional	5,000	5,000	5,000
Capital Purchases	8,000	8,000	8,000
Office Supplies	8,000	8,000	8,000
Business Promotion	6,000	6,000	4,000
Total Outflows	310,000	311,000	310,000
Net Cashflow/ Period	(38,000)	(15,000)	15,000
Cumulative Cashflow	(300,000)	(315,000)	(300,000)
Donations			
Adjusted Cashflow	0	(15,000)	0

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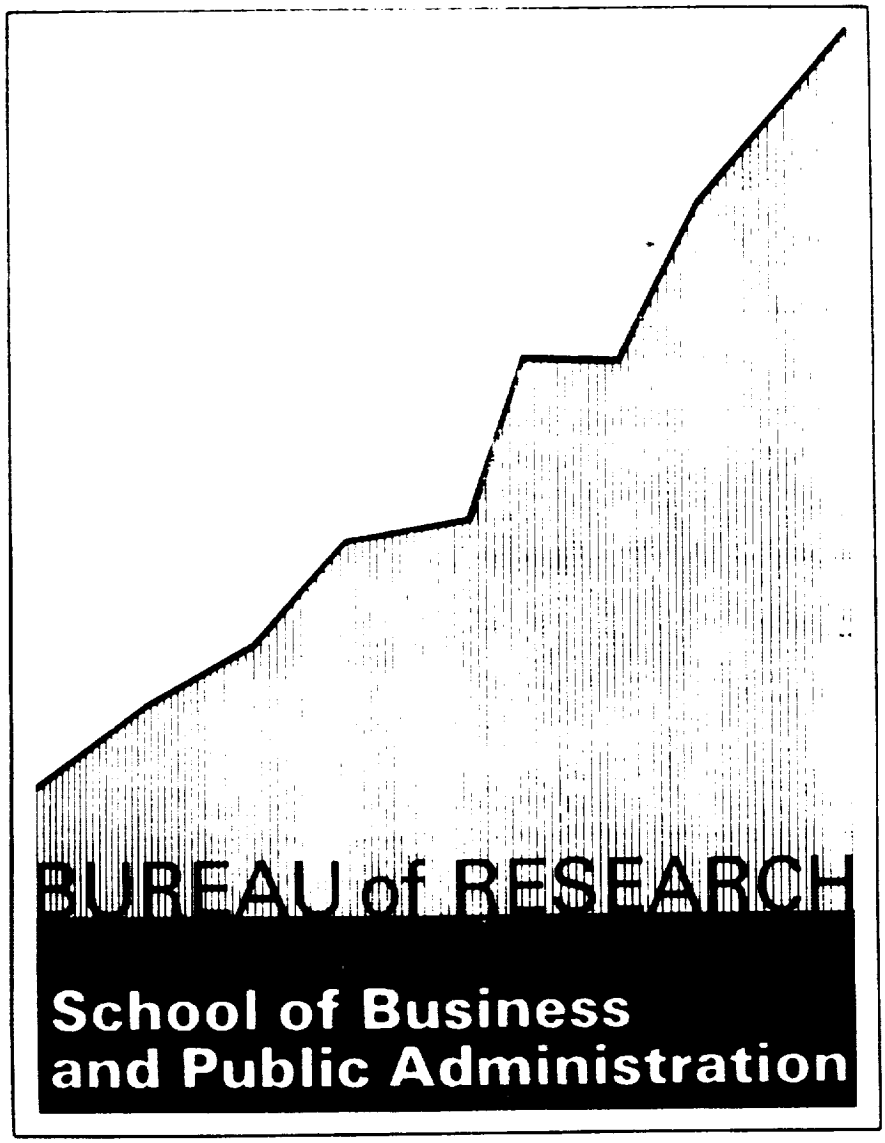
MARKET SURVEY



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APPLIED TECHNOLOGY CENTER

MARKET SURVEY

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EXECUTIVE SUMMARY

I. Objective: To validate that five chosen computer-based technologies are among the cutting-edge of computer developments. To assess both vendor and user interest in the ATC's concept of technology transfer.

II. Method: Telephone survey from prepared forms. Ninety-five contacts were made--sixty-four users, thirty-one vendors.

III. Findings:

A. The five technologies chosen by the ATC are among the most current. They are CAD/CAM, expert systems, CASE, DBMS and desk top publishing.

B. The core group of experts in the five technologies have been identified and interviewed.

C. The user survey results reveal the following:

1. Half or more of all respondents utilized all five computer technologies.

2. Half of all responders are interested in accessing vendor equipment and current technologies.

3. Less than a third of the responders were interested in training and only 12 percent were interested in UH-Clear Lake resources.

4. One-third of the responders indicated they would explore a business relationship at $2,000 per ATC badge. Another third were uncertain.

D. The vendor survey results reveal the following:

1. Four-fifths of the respondents are doing business with JSC.
2. Two-fifths have corporate facilities similar to the ATC.
3. Over three-fourths of the responders are interested in a UH-Clear Lake association.
4. One-third would consider allocating equipment to the ATC. Nearly half, expressed some uncertainty.

IV. Recommendations: The results of the surveys indicate the potential of a viable market on both the vendor and user sides. The team of experts should be interviewed routinely in rotational fashion. An aggressive marketing effort must accompany the thrust into the identified technologies.

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APPLIED TECHNOLOGY CENTER

MARKET SURVEY

I. Background

The Applied Technology Center (ATC) is a non-profit corporation established to promote computer technology transfer and utilization. Primary foci for the ATC's efforts fall into five categories. They are CAD/CAM and animation, expert systems, computer aided software engineering, data base management systems and desk top publishing.

The strategy chosen by the ATC board of directors to implement its version of computer technology transfer contains two components. One component relates to what the computer industry has to offer in terms of state-of-the-art and leading edge hardware and software products. The other component considers what the market place may need or desire regarding innovative utilization or modification of existing computer tools. In other words, the ATC seeks to creatively couple the two sides of the market place in a conducive environment to help spur additional innovation.

Since the rate of technology development in the computing field is quite rapid, the challenge before the ATC is to continually stay abreast of late-breaking developments. This report represents the first round results from a process designed to feed information into the center. Armed with this continual flow of market intelligence, the board of directors will be able to orient its collection of computer industry tools toward those market niches believed to hold the most promise.

The process is as fluid and as dynamic as the markets themselves. Though an evolving network of experts contacted on a frequent basis,

new technologies can be identified and explored. Coupled with a constant monitoring of corporate initiatives, the ATC can fulfill its role as a linking agent in the cycle of innovation.

II. Methodology

The rapidly reconfiguring market and wide dispersment of experts dictated the use of telephone surveys for the market investigation. The ATC faces several opportunities for revenue generation, but the present investigation is concerned only with the technology transfer and linking opportunity. Other avenues include but are not limited to contract work, professional training, educational grants and equity sharing arrangements in product development.

The market survey investigation was structured into two phases. Phase I sought to identify knowledgeable people in various computing specialties. Phase I also validated local experts' opinions on what the late-breaking technologies were by name and status. Phase II sought information from both vendors for and potential users of the ATC. Views of the ATC concept from both the users and vendor sides of the market were crucial in developing the business plan. Surveys for both phases were completed by telephone. A third, and very limited, exploration was made into the print literature. The idea was that editors and writers of professional journals could also provide quality information about the various computing technologies.

The survey used to investigate which computing technologies existed at the time was developed in conjunction with the ATC board of directors. The final survey form of six questions queried experts on what they saw as current leading edge and state-of-the-art developments as well as known

vendors. The list of experts was initially supplied by ATC board members and expanded as each of these experts were asked for additional names. The survey form appears in the Appendix.

The surveys developed to investigate the vendor and user sides of the market also were completed with the aid of ATC board members. These surveys also asked six questions each and were aimed at the director of marketing for each company. If the marketing person contacted was unable to respond, other names of individuals in the company were requested. The user survey form focused on company interest in the ACT concept, what technologies the company was involved in and their willingness to explore a fee-based business arrangement. The vendor form asked respondents about their recognition of the ATC, their willingness to allocate equipment to the ATC facility, and their openness to allowing others to utilize their equipment. Both survey forms appear in the Appendix. The same individual made all telephone inquiries. The results of the survey responses received during the November, 1987, and January, 1988, time-frame are reviewed in the next section.

III. Results

The Phase I survey data are somewhat voluminous. They are appended in diskette form on a Lotus file containing the listed experts with contact numbers used to identify the various computer technologies. These names now comprise the core of the ATC's market intelligence base. It is strongly suggested that these individuals be contacted once or twice a year in order to remain current on the computer technology front. The list should also expand as successive rounds of inquiries are made. So not to over utilize an expert, it is further suggested that they be contacted in a rotational fashion.

Phase II survey data are presented in Tables 1 through 4 below. Ninety-five total inquiries were made. Sixty-four calls were to users and thirty-one calls were to vendors. Tables 1 and 2 contain the user responses in raw and percentage form, respectively. Likewise, vendor responses are contained in Tables 3 and 4 in raw and percentage form, respectively. Detailed information per responder is provided in diskette form in Lotus file.

Referencing Table 2 data for potential users, tabulated responses to question six indicated that nearly one-third would be willing to explore a business relationship if access badges were priced at $2,000. More than a third (35%) indicated they were not sure in response to question six. These results indicate that the potential market proportion may be as large as the existing market proportion as to openness to paid ATC relationships.

Interest on the parts of users is not as high for university affiliations or for professional training but, again, the segment reserving final judgement is significantly large in both instances.

TABLE 1
SUMMARY OF USER RESPONSES IN RAW FORM

Question	Yes	No	Other	No Answer	Total
1. Does your company utilize state-of-the-art or leading edge technologies in any of the following areas?					
a. CAD/CAM or Animation	30	26	0	8	64
b. Expert Systems	25	31	0	8	64
c. Computer Aided Software Engineering	33	23	0	8	64
d. Data Base Management Systems	44	12	0	8	64
e. Desk Top Publishing	34	22	0	8	64
2. Would your company be interested in accessing several different vendor products at one ATC location?	36	14	6	8	64
3. Would your company be interested in experimenting with several leading edge technologies at one ATC location?	31	12	13	8	64
4. Would your company be interested in using the ATC to train its employees in leading edge or state-of-the-art technologies?	19	25	12	8	64
5. Would your company be interested in an association between the ATC and the University of Houston Clear Lake to tap resources such as grants and research assistants?	8	12	36	8	64
6. If ATC access badges were priced at only $2,000, would your company be interested in exploring a business relationship?	20	13	23	8	64

TABLE 2
SUMMARY OF USER RESPONSES IN PERCENTAGE FORM

Question	Yes	No	Other	No Answer	Total
1. Does your company utilize state-of-the-art or leading edge technologies in any of the following areas?					
a. CAD/CAM or Animation	46.88%	40.63%	0.00%	12.50%	100.00%
b. Expert Systems	39.06%	48.44%	0.00%	12.50%	100.00%
c. Computer Aided Software Engineering	51.56%	35.94%	0.00%	12.50%	100.00%
d. Data Base Management Systems	68.75%	18.75%	0.00%	12.50%	100.00%
e. Desk Top Publishing	53.12%	34.38%	0.00%	12.50%	100.00%
2. Would your company be interested in accessing several different vendor products at one ATC location?	56.25%	21.88%	9.38%	12.50%	100.00%
3. Would your company be interested in experimenting with several leading edge technologies at one ATC location?	48.44%	18.75%	20.31%	12.50%	100.00%
4. Would your company be interested in using the ATC to train its employees in leading edge or state-of-the-art technologies?	29.69%	39.06%	18.75%	12.50%	100.00%
5. Would your company be interested in an association between the ATC and the University of Houston Clear Lake to tap resources such as grants and research assistants?	12.50%	18.75%	56.25%	12.50%	100.00%
6. If ATC access badges were priced at only $2,000, would your company be interested in exploring a business relationship?	31.25%	20.31%	35.94%	12.50%	100.00%

TABLE 3
SUMMARY OF VENDOR RESPONSES IN RAW FORM

estion	Yes	No	Other	No Answer	Total
ny have a corporate gram like the one just he ATC?	13	16	0	2	31
ly doing business with ice Center or its major	25	4	0	2	31
lling to allow quali- ccess your product(s) tal learning fashion?	12	5	12	2	31
any be interested in with the ATC and the ouston-Clear Lake to hrough grants and ants?	24	3	2	2	31
hat other vendors are ted with the ATC?	22	7	0	2	31
willing to consider pment to the ATC for sfer purposes?	9	5	15	2	31

TABLE 4
SUMMARY OF VENDOR RESPONSES IN PERCENTAGE FORM

Question	Yes	No	Other	No Answer	Total
. Does your company have a corporate facility or program like the one just described for the ATC?	41.94%	51.61%	0.00%	6.45%	100.00%
2. Are you presently doing business with the Johnson Space Center or its major contractors?	80.65%	12.90%	0.00%	6.45%	100.00%
3. Would you be willing to allow qualified users to access your product(s) in an experimental learning fashion?	38.71%	16.13%	38.71%	6.45%	100.00%
4. Would your company be interested in an association with the ATC and the University of Houston-Clear Lake to tap resources through grants and research assistants?	77.42%	9.68%	6.45%	6.45%	100.00%
5. Are you aware that other vendors are already affiliated with the ATC?	70.97%	22.58%	0.00%	6.45%	100.00%
6. Is your company willing to consider allocating equipment to the ATC for technology transfer purposes?	29.03%	16.13%	48.39%	6.45%	100.00%

Approximately half the users surveyed expressed interest in accessing several vendor products at once (56%) along with the ability to experiment with leading edge technologies (48%). In sum, interest in the ATC concept from the user side of the market appears robust especially if a marketing program is successfully carried out.

Looking at Table 4 data for vendor responses, some 29 percent indicated they would be willing to consider allocating equipment to the ATC. Nearly half responded with a "not sure". The majority of vendors surveyed were aware of the ATC and were presently doing busines with the Johnson Space Center or its contractors. Over three-fourths of the responders indicated an interest in associating with UH-Clear Lake to take advantage of grants and research assistants. The responses, as a whole, demonstrate a strong inclination on the part of vendors to participate in the ATC concept.

It is also of interest to note how responses for both users and vendors relate to proximity to the ATC. Since the Clear Lake area is known for its concentration of aerospace firms, one would expect the highest frequency of positive responses from local area firms. That sense is confirmed when establishment locations are reviewed. As of the date for this inquiry, the strongest support for the ATC is local and wanes rapidly for firms located in Houston. More distant firms simply were unaware of the ATC and requested additional information. As a result, local success and effective public relations could bring about a much wider circle of support than currently exists for the ATC.

IV. Summary and Conclusions

The material presented above from two surveys for the ATC indicate the presence of a market in reasonable numbers of firms. The Phase I survey gave support to five computer technology areas that the ATC board of

directors wished to engage in. Those five are CAD/CAM and animation, expert systems, computer aided software engineering, data base management systems and desk top publishing.

The Phase II survey of users and vendors indicate that about one third of the 64 users and slightly less than that proportion of vendors are willing to consider a business arrangement with the ATC. This information is sufficiently strong to launch the next tier of ATC activity. This tier would involve the acquisition of sufficient start-up funds for a two-year period and the bringing on-board of a full-time director to guide the activity. Also included in this new action phase should be an aggressive marketing campaign to make an ever larger share of the potential market aware of the benefits offered by the ATC.

CONTACT PERSON:
FIRM NAME:
ADDRESS:

APPLIED TECHNOLOGY CENTER
INDUSTRY SURVEY
USER VERSION

The Bureau of Research at UH-Clear Lake is working with the Applied Technology Center (ATC) and the Clear Lake Area Economic Development Foundation to identify high technology firms interested in promoting technology transfer and making companies grow. The ATC, located adjacent to the Johnson Space Center, is a non-profit organization created to promote technology transfer in the computer hardware and software fields. One function of the ATC is to serve as a development environment for both the users and the suppliers of leading edge and state-of-the-art products. The following 6 short questions are designed to help us better respond to vendor needs at the ATC. This is not a solicitation and the ATC Board has specific requirements for user participation.

1. Does your company utilize state-of-the-art or leading edge technologies in any of the following areas?
   _____Y _____N CAD/CAM or Animation
   _____Y _____N Expert Systems
   _____Y _____N Computer Aided Software Engineering
   _____Y _____N Data Base Management Systems
   _____Y _____N Desk Top Publishing

_____Y _____N 2. Would your company be interested in accessing several different vendor products at one ATC location?

_____Y _____N 3. Would your company be interested in experimenting with several leading edge technologies at one ATC location?

_____Y _____N 4. Would your company be interested in using the ATC to train its employees in leading edge or state-of-the-art technologies?

_____Y _____N 5. Would your company be interested in an association between the ATC and The University of Houston at Clear Lake to tap resources such as grants and research assistants?

_____Y _____N 6. If ATC access badges were priced at only $2,000 would your company be interested in exploring a business relationship?

Others in organization to contact: _____

_____

Comments: _____

_____

(We will send a brochure if they ask for more information but do not volunteer it.)

CONTACT PERSON:
FIRM NAME:
ADDRESS:

APPLIED TECHNOLOGY CENTER
INDUSTRY SURVEY
VENDOR VERSION

The Bureau of Research at UH-Clear Lake is working with the Applied Technology Center (ATC) and the Clear Lake Area Economic Development Foundation to identify high technology firms interested in promoting technology transfer and making companies grow. The ATC located adjacent to the Johnson Space Center, is a non-profit organization created to promote technology transfer in the computer hardware and software fields. One function of the ATC is to serve as a development environment for both the users and the suppliers of leading edge and state-of-the-art products. The following 6 short questions are designed to help us better respond to vendor needs at the ATC. This is not a solicitation and the ATC Board has specific requirements for vendor participation.

_____Y _____N 1. Does your company have a corporate facility or program like the one just described for the ATC?

_____Y _____N 2. Are you presently doing business with the Johnson Space Center or its major contractors?

_____Y _____N 3. Would you be willing to allow qualified users to access your product(s) in an experimental learning fashion?

_____Y _____N 4. Would your company be interested in an association with the ATC and the University of Houston-Clear Lake to tap resources through grants and research assistants?

_____Y _____N 5. Are you aware that other vendors are already affiliated with the ATC?

_____Y _____N 6. Is your company willing to consider allocating equipment to the ATC for technology transfer purposes?

Others in organization to contact: _____

_____

Comments: _____

_____

(We will send a brochure if they ask for more information but do not volunteer it.)

B. Phase I Survey Results in Detail

AREA OF EXPERTISE	NAME	EMPLOYER	PHONE #	1	2
Desk-top Publishing Office Automation Character recognition Voice/machine interface	John Arnold	NASA	483-7603	No	Price of Technology has dropped
	Charles Liszcz	CSC	280-2149	No	none
	*Jerry Smith	Ford A/S	282-5518	Yes	Desk-top scanners Hardware improvements
DBMS, LANS, Full Text Storage	George Clouette	Lockheed	333-6117	Yes	Bridging disparate DBMS's
	Bob Regelbrugge	CSC	280-2185	Yes	File Transfer Capabilities (bridging)
	Wally Stewart	JSC	483-7507	Yes	Relational Databases Distributive database management Bridging of systems, Mainframe interface
	Charles Liszcz	CSC	280-2149	No	none
	*Neil Wolfe	Lockheed	333-6506	Yes	Superconductivity
	*John Selcer	Ford A/S	282-5518	Yes	STDI OSI Protocol X DOT Protocol
	*Gary Hamphill	Lockheed	333-6155	Yes	TCPIP Protocol
CAD-CAM, Graphics, Animation	Tom Parrish	Symbolics	280-8205	Yes	Behavioral animation Expert systems (integrated animation)
	Mark Voss	Lincom	333-1625	Yes	High speed graphics processors Graphics software improvements

SOURCES			RESPONSES	
AREA OF EXPERTISE	NAME	3	4	5
Desk-top Publishing Office Automation Character recognition Voice/machine interface	John Arnold	Integration of text and graphics Real world application of expanded memory	All business	Micro-soft Boreland Lotus IBM
	Charles Liszcz	none	none	None
	*Jerry Smith	Improved CPU speed and memory	engineering science	Intel
DBMS, LANS, Full Text Storage	George Clouette	Economic workstations for CASE and DBMS	Aerospace Software development Software maintenance	Intermetrics DEC IBM Sun Apollo Data General
	Bob Regelbrugge	Integrated systems Expert systems	Software engineering	Knowledge Ware Expert Ware IBM
	Wally Stewart	Hypertext systems Composite documents	Aerospace Any Business	IBM Novell 3 Comm Oracle
	Charles Liszcz *Neil Wolfe	none ISDN Testing	none Consumer Retail Mrktng.	None AT&T IBM
	*John Selcer	Commercial availability of protocols	Government Computer Networking Int'l Business	Advance Micro Devices Fibercon 3 COM/Bridge ? IBM HP
	*Gary Hamphill	OSI Phase 5 Architecture	Distributive Networks Campus Environments	DEC IBM
CAD-CAM, Graphics, Animation	Tom Parrish	Hardware speed-ups High resolution frame buffer Integration of Hardware	Corporate communications Aerospace/defense	Apple IBM Symbolics Silicone Graphics Compu Corp
	Mark Voss	New generation of graphics hardware Expert system imbedded in software Holographic memory and stereovision	Aerospace-CAD/CAM Autonobile mfg. Presentation graphics	Raster Technologies Silicon Graphics

SOURCES

AREA OF EXPERTISE	NAME	6A	6B	6C
Desk-top Publishing Office Automation Character recognition Voice/machine interface	John Arnold	Walter Bays	Mitre Corp.	333-0923
		Jerry Smith	Ford Aerospace	282-5518
	Charles Liszcz	Elwin Graham	CSC	486-8153
		Kent Drummond	CSC	280-2145
	*Jerry Smith	John Seltzer(cer?)	Ford Aerospace	282-5518
DBMS, LANS, Full Text Storage	George Clouette	Neil Wolfe	Lockheed	333-6506
		Gary Hamphill	Lockheed	333-6155
	Bob Regelbrugge	Mike Evans	Expert Ware	408-746-0706
		Dick Parton	Lockheed	
	Wally Stewart	Bob Voight	NASA	
		John Seltzer(cer?)	Ford Aerospace	282-5518
		Prof. Bishop	UHCL	
	Charles Liszcz	Elwin Graham	CSC	486-8153
	*Neil Wolfe	Mat Dougherty	TGS	640-3597
	*John Selcer	Rocky Singh	Ford Aerospace	335-6160
		John Defife	JSC	
	*Gary Hamphill	Kevin Shaun	Lockheed	333-6425
		Suchart Upalawnna	Lockheed	333-6310
CAD-CAM, Graphics, Animation	Tom Parrish	Mike Truly	Symbolics	335-1583
	Mark Voss	Ed Cramer	Lincom	483-8060
		Larry Okeene	Raster Tech.	617-692-7900

AREA OF EXPERTISE	NAME	EMPLOYER	PHONE #	1	2
	Ralph Leuthy	Barrios	480-1889	No	Faster and better Risk Architecture
	Steve Schnucker	Computer Vision	880-8200	Yes	Feature based technology (modeling)
	John Tahaney	Computer Vision	880-8200	Yes	Workstation Technology Personal Systems Computers
	*Ed Cramer	Lincon	483-8060	Yes	Reduced cost of animation Improved computer graphics software Faster hardware Digital video output
Expert Systems, Project Management Scheduling, Costing	Bill Holbert	Symbolics	280-8205	Yes	Hardware and software evolution
	Jack Aldridge	McDonnell Doug.	280-1654	Yes	Neural networking Specialized natural language interfaces
	Mike Boulton	Unisys	282-3766	Yes	AI software
CASE: Tool Kits, Workbenches	Bob Ernull	Rockwell	282-3065	No	none
	Sharon Perkins	UHCL	488-9400	No	none

SOURCES

AREA OF EXPERTISE	NAME	6A	6B	6C
	Ralph Leuthy	Ed Cramer	Lincon	483-8060
	Steve Schmucker	Paul Landry	Computer Vision	880-1630
		Mike Davidson		929-8900
	John Tahaney	Bob Gable	Computer Vision	800-225-1614
		Phil Reed	Computer Vision	800-225-1614
	*Ed Cramer	Jim Blinn	Jet Prop. Lab	Pasadena, CA
		Bill Kovacs	Wavefront	Santa Barbara
		Charles Csuri	U.of Ohio	Columbus
		John Whitney	Whitney/Demos	Santa Monica
		Dean Winkler	Post Perfect	NY, N.Y.
		Dean Eaker	Comp.Pict.Mag.	Clifton,N.J.
		Jeff Kleiser	Whitney/Demos	
		Alvy Ray Smith	PIXAR	San Rafiel
		Ed Catmull	PIXAR	San Rafiel
		John Lassiter	PIXAR	San Rafiel
		Loren Carpenter	PIXAR	San Rafiel
		Carl Rosendahl	Pacific Data Images	Sunny Vale,CA
Expert Systems, Project Management Scheduling, Costing	Bill Holbert	Dr.Phillip Brow	Assent Technology	Boston,MA
		Howard Austin		Boston
	Jack Aldridge	Roger Shanks	Yale	
		Gary Hendricks	Symantech	
	:	Harry Tennant	TI	Dallas, TX
		Rod Tabor	General Dynamics	San Diego,CA
		Robert Mac Neilson		
	Mike Boulton	None		
		Ken Binson	Lockheed	512-448-9719
		Al Haddad	Lockheed	415-424-3142
CASE: Tool Kits, Workbenches	Bob Ernull	Jack Munson	Unisys	282-4951
		Greg Trachta	Unisys	282-2890
	Sharon Perkins	Leibfried	UHCL	
		Pat Rogers	UHCL	

SOURCES

AREA OF EXPERTISE	NAME	EMPLOYER	PHONE #	1	2
	Ed Monteiro	McDonnell Doug.	280-1629	Yes	Integration of multiple views Incorporation of object oriented design into CASE environment
	George Clouette	Lockheed	333-6117	Yes	Integrated environments (nonspecific)
	Bob Hinson	NASA	483-8108		Cadre technology accelerators IDE software
	J.D. Buckner	McDonnell Doug.	280-1533	Yes	General tools
	Bob Regelbrugge	CSC	280-2185	No	none
	Chuck Hoffman	Barrios	480-1889	Yes	Neural networking Transputer technology 68030 chip 386 chip
	Dick Parton	Lockheed	282-6400	No	none
	Charles McKay	UHCL	488-9490	Yes	ADA implementation of PCTE Extension of rational architecture SSE contract
	*Bill Privell	McDonnell Doug.	280-1744	Yes	none
	*Bill Watkins	McDonnell Doug.	280-1500	Yes	Reverse engineering Object oriented design CASE/ADA applications
	*Pat Rich	Lockheed	282-6407	Yes	Rational Technology Cadre Alysys Advances
	*Greg Trachta	Unisys	282-2890	No	none

SOURCES		RESPONSES	
AREA OF EXPERTISE	NAME	3	4	5
				McDonnel Douglas
	Ed Monteiro	Entity relationship modeling and application techniques	NASA Space community	Interactive Development Cadre Technology Techtronics Inc.
	George Clouette	None	none	None
	Bob Hinson	Object oriented design Inter-entity relationship diagramming	Aerospace Software Development	None
	J.D. Buckner	Automated ADA development Additional design tools	Aerospace Oil/geophysical	None
	Bob Regelbrugge	Integrated systems	Software Engineering	None
	Chuck Hoffman	Mature ADA compilers CASE tools	Aerospace Business	Apollo Computers Intel Motorola Sun
	Dick Parton	None	none	None
	Charles McKay	Identification of IRDS Definition of interoperability standards	Any business/Industry Government Academia	Rational Science City Commission of European Communities
	*Bill Privell	Life cycle support systems	Data processing Information development Aerospace	Knowledge Ware TI Xcelerator Cadre
	*Bill Watkins	Entity relationship modeling Integration of object oriented tools	Big business Government	Teledyne/Brown Rational Mark 5 GEC
	*Pat Rich	Stars Program Spacestation developments	Aerospace Defense	Rational Alysys Tartan DEC
	*Greg Trachta	None	Government Aerospace DOD	None

APPENDICES

A. Survey Forms

NAME:_____

ATC Telephone Survey
To Technical Market Team

Introduction: Your name was recommended by as an expert in _____. We are inviting you to join a team of other experts to help advance the goals of the Applied Technology Center, a non-profit organization. The ATC's charter is to enhance technology development through access to state-of-the-art equipment by entrepreneurial firms.

We have limited the scope of team member involvement to occasional telephone interviews such as this one. No meetings, reports or lengthy activities are required.

It is our objective to continually stay abreast of selected late-breaking technologies through the use of experts like yourself. Would you please respond to the following questions?

1. We currently list your area(s) of expertise as: _____

   Is that correct? (if not, then ...._____

2. Please list what you see as the top three state-of-the-art technological developments which have emerged in your area within the past 12 months.

   _____ _____

   _____ _____

3. Please list what you see as the top three leading edge technological developments which have emerged in your area within the past 12 months.

   _____ _____

   _____ _____

4. Concerning the technological developments you listed above, in what type of business or industry do you see this technology being most widely used?

   _____ _____

   _____ _____

5. What vendor names come to mind with these particular technologies?
   State-of-the-Art Leading Edge

   _____ _____

   _____ _____

   _____ _____

6. What names of other experts in this field come to mind?

   _____ _____

   _____ _____

SOURCES

AREA OF EXPERTISE	NAME	6A	6B	6C
	Ed Monteiro	Dick Feldsinger		803-881-3648
		Bill Privell	McDonnel Douglas	280-1744
	George Clouette	None		
	Bob Hinson	Dave Howes	NASA	483-8381
	J.D. Buckner	Bill Watkins		280-1500
		Bess Estep		280-1756
	Bob Regelbrugge	None		
	Chuck Hoffman	Bob Brown	NASA	
	Dick Parton	Rick Blumberg	Lockheed	282-6405
		Pat Rich	Lockheed	282-6407
	Charles McKay	Bob Scharrette	Itabki	703-876-1230
		Mike Devilin	Rational	415-940-4740
	*Bill Privell	None		
	*Bill Watkins			
		Pat Gill	GEC	
	*Pat Rich	Celia Lang	Lockheed	282-6439
		Tom Webb	CADRE	817-261-4174
		Roy Albert	Tartan	412-621-2210
		Stu Jeans	DEC	603-884-4479
	*Greg Trachta	Jay Evers	Unisys	282-3315

C. Phase II Survey Results in Detail

ATC - INDUSTRY SURVEY
USER VERSION

QUESTION NO.

FIRM NAME	1A	1B	1C	1D	1E	2	3	4	5	6	COMMENTS
SCOTT MAYO	N	N	N	Y	N	Y	Y	Y	O	Y	
A BETTER ELECTRONICS,INC	N	N	N	N	N	O	O	O	O	O	
CONTRL APPLICATIONS INC.,	Y	N	Y	Y	Y	Y	O	O	N	O	SEND INFO
COMPUTER INSLTN.CORP.,	Y	Y	Y	Y	N	Y	Y	N	N	N	
CHURCHILL GROUP INC.,	N	N	N	Y	Y	Y	N	N	N	Y	
CRITERION TELEPHONE CORP.,	N	N	Y	N	N	N	Y	N	Y	O	NEED MORE INFO
NATIONAL HEALTH LAB.	N	N	N	Y	N	Y	O	N	O	N	
HOWARD HUGHES MED. INST.	N	Y	Y	Y	N	N	N	O	N	O	
MILLAR INSTRUMENTS INC.,	N	N	N	Y	N	O	O	O	O	O	NEED INFO
EXXON PRODUCTION RESEARCH CO.,	Y	N	Y	Y	Y	Y	Y	N	O	O	SEND INFO
ALLEN CO. INC/FRED	N	Y	N	Y	N	N	N	N	N	N	INVOLVED WITH POLYMIRS DEPT. AT A&M
VITA HOUSTON VOLONT IN TECHN.	N	N	N	Y	Y	Y	Y	Y	Y	N	
MCGRAW HILL	N	N	N	N	Y	N	N	N	N	N	
WELCH FOUNDATION	Y	N	Y	Y	Y	N	N	N	N	N	
MICHEL CERAMIC LABORATORIES											
LANDATA INC.,	N	N	N	Y	Y	Y	Y	Y	Y	Y	SEND INFO
BONNER & MOORE COMP CO.,	N	N	N	Y	N	N	N	N	Y	Y	
CORPORATE SERVICES INC.,	N	N	Y	Y	Y	Y	Y	Y	N	O	SEND INFO
BOZELL & JACOBS											
BERMAN FILMS INC.,	N	N	N	N	N	N	Y	N	N	O	
FLOUR ENGRS.OCEAN SERVS DIV.,	Y	N	N	Y	N	Y	Y	Y	Y	Y	
B HARRIS ADVG & MKTG DEVL INC.,	N	N	N	N	Y	N	N	Y	N	N	
P P G INDUSTRIES INC.,											
SHELL OIL CO.,	Y	Y	N	N	N	Y	Y	Y	O	Y	
MAMMOTH INTL.CHEMICAL											
SCITOR CORP.,											
OMNIPLAN CORP											
CARLS CROWN & BRIDGE STUDIO											
K-KEY MINING CO.,	N	N	N	N	N	O	O	O	O	O	
UNITED GENERAL ENGINEERING											
SPACE SERVICES INC.,	Y	N	N	Y	N	Y	Y	Y	O	Y	ALREADY A MEMBER
SOFTECH	N	N	Y	N	N	Y	Y	Y	O	Y	
MITRECORP.,	N	Y	Y	Y	Y	Y	Y	N	O	Y	SEND INFO
SPACEHAB.,	N	N	N	N	N	N	N	N	O	N	IN A HOLD,PENDING SITUATION
NETWORK SOLUTIONS INC	N	Y	Y	Y	N	Y	Y	Y	O	O	SEND MORE INFO
MARTIN MARIETTA AEROSPACE	Y	Y	Y	Y	Y	Y	O	N	O	O	MANY OF THEIR APPLICATIONS ARE COMPETITOR SEN
LOVELACE MEDICAL FOUNDATION	Y	N	N	Y	Y	O	O	N	O	Y	
INTERMETRICS	Y	Y	Y	Y	Y	Y	O	O	O	O	
GENERAL DYNAMICS CORP	Y	Y	Y	Y	Y	Y	Y	O	O	O	
EAGLE ENGINEERING	Y	Y	N	Y	Y	Y	Y	Y	O	Y	
CONTROL DATA CORP	Y	N	Y	Y	N	Y	Y	N	O	O	
BOEING AEROSPACE OPERATIONS	Y	Y	Y	Y	Y	Y	Y	Y	O	Y	
ECON INC	N	Y	N	Y	Y	Y	Y	O	O	Y	
CIMARRON SOFTWARE SERVICES	Y	N	Y	N	N	O	O	Y	Y	Y	
DIGITAL EQUIPMENT CORP	Y	Y	Y	Y	Y	N	Y	N	O	O	
IBM CORP	Y	Y	Y	Y	Y	O	O	O	O	O	
TRW SPACE & TECH GROUP	Y	Y	Y	Y	Y	Y	N	N	O	O	
GRUMMAN CORP	Y	Y	Y	Y	Y	Y	Y	O	O	Y	
AEROJET TECH SYSTEMS	Y	Y	Y	Y	Y	N	N	N	O	N	
SPACE INDUSTRY	N	N	N	N	N	N	N	N	O	N	
McDONNELL DOUGLAS ASTRONAUTICS CORP,	Y	Y	Y	Y	Y	Y	O	O	O	O	

ATC - INDUSTRY SURVEY
USER VERSION

QUESTION NO.

FIRM NAME	1A	1B	1C	1D	1E	2	3	4	5	6	COMMENTS
McDONNELL DOUGLAS	Y	Y	Y	Y	Y	Y	Y	O	O	O	NEEDS INFO
McDONNELL DOUGLAS	Y	Y	Y	Y	Y	Y	Y	Y	O	Y	
COMPUTER SCIENCE CORP	Y	Y	Y	Y	Y	Y	Y	N	O	O	
UNISYS	Y	Y	Y	Y	Y	Y	Y	Y	O	O	SEND INFO
BENDIX FIELD ENGINEERING CORP	Y	N	Y	Y	Y	Y	Y	Y	O	Y	
LYNDELL PETROCHEMICALS DIV	N	N	N	Y	Y	Y	Y	Y	O	Y	
I L C SPACE SYSTEM	Y	N	Y	Y	Y	Y	O	N	O	N	
I L C SPACE SYSTEMS	Y	N	N	Y	N	Y	Y	Y	O	O	SEND INFO
KADER ROBOTICS	Y	Y	Y	Y	Y	Y	Y	N	Y	N	SEND INFO
NATIONAL INSTRUMENTS	N	N	Y	N	Y	Y	Y	N	N	Y	SEND INFO
EISYS INC	N	Y	Y	Y	Y	N	Y	N	N	N	SUPPLY EXPERT SYSTEMS SHELL TO ATC
FLAGSTAFF ENGINEERING	N	N	Y	Y	Y	N	O	Y	O	O	SEND INFO
VICTORY ENTERPRISES	Y	Y	Y	Y	N	Y	N	N	Y	Y	SEND INFO

ATC - INDUSTRY SURVEY
VENDOR VERSION

QUESTION NO.

FORM NO.	FIRM NAME	1	2	3	4	5	6	COMMENTS
1	SPACE SERVICES INC	N	N	Y	Y	Y	Y	
2	SOFTECH	N	Y	Y	Y	Y	N	
3	MITRE CORP	Y	Y	Y	O	N	O	
4	SPACEHAB	N	Y	N	Y	Y	Y	
5	NETWORK SOLUTIONS INC	N	Y	O	Y	Y	O	
6	MARTIN MARIETTA AEROSPACE	Y	Y	O	Y	Y	O	
7	LOVELACE MEDICAL FOUNDATION	N	Y	O	Y	N	O	TRIED TO ACCESS CENTER BUT NO ONE AT HOME
8	INTERMETRICS	N	Y	O	Y	Y	O	
9	GENERAL DYNAMICS CORP	Y	Y	N	Y	Y	O	TWO PERSON OFFICE HERE
10	EAGLE ENGINEERING	N	Y	O	Y	Y	N	
11	CONTROL DATA CORP	N	Y	N	Y	Y	O	WOULD LIKE MORE INFO.
12	BOEING AEROSPACE OPERATIONS	Y	Y	Y	Y	Y	Y	
13	ECON INC.,	N	Y	Y	Y	Y	Y	
14	CIMARRON SOFTWARE SERVICES	N	N	Y	Y	Y	Y	RECEIVED PRIOR INFO., FELL THROUGH CRACKS
15	DIGITAL EQUIPMENT CORP	Y	Y	Y	Y	Y	Y	
16	IBM CORP.,	Y	Y	O	Y	N	O	SEND MORE INFO.,
17	TRW SPACE & TECHNOLOGY GROUP	N	Y	Y	N	Y	Y	
18	GRUMMAN CORP.,	N	Y	Y	Y	Y	O	
19	AERO JET TECHSYSTEMS	Y	Y	N	N	Y	O	ONE PERSON OFFICE OPERATIONS IN CALIFORNIA
20	SPACE INDUSTRIES	N	N	N	N	Y	N	
21	McDONELL DOUGLAS ASTRONAUTICS CORP	Y	Y	O	Y	Y	O	
22	McDONNELL DOUGLAS	Y	Y	O	Y	N	O	
23	McDONNELL DOUGLAS	Y	Y	Y	Y	N	Y	
24	COMPUTER SCIENCE CORP.,	Y	Y	O	Y	Y	Y	
25	UNISYS	Y	Y	Y	Y	Y	O	
26	BENDIX FIELD ENG.CORP.,	Y	Y	O	Y	Y	O	
27	LYNDELL PETROCHEMICALS DIV.,	N	N	Y	Y	N	N	SEND INFOSEND INFO.
28	ILC SPACE SYSTEMS	N	Y	O	O	Y	N	
29	ILC SPACE SYSTEMS	N	Y	O	Y	N	O	
30	TEXAS INSTRUMENTS							SEND ATC INFO AND SURVEY
31	TEXAS INSTRUMENTS							

PUBLICATION TITLE Publishing Company	Address	Editor Phone Number
** General **		
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36 SPANG ROBINSON REPORT; the A.I. business newsletter Louis G. Robinson and Associates	3600 W. Bayshore Rd., No. 3 Palo Alto, CA 94303-4229	Sara Spang 415-424-1447
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